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A class of combined iterative methods for solving variational inequalities

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Abstract

A general approach to constructing iterative methods that solve variational inequalities is proposed. It is based on combining, modifying, and extending ideas contained in various Newton-like methods. Various algorithms can be obtained with this approach. Their convergence is proved under weak assumptions. In particular, the main mapping need not be monotone. Some rates of convergence are also given.

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Keywords

convergence rates, Newton-like methods, nonmonotone mappings, Variational inequalities